CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 80-61

WASTE DISCHARGE REQUIREMENTS FOR:

UNITED TECHNOLOGIES CORPORATION, CHEMICALS
SYSTEMS DIVISION, COYOTE CENTER
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Board) finds that:

1. The Chemical Systems Division of United Technologies Corporation (hereinafter discharger) submitted a report of waste discharge dated April 9, 1980, for its Coyote Center facility.

2. The discharger's Coyote Center main facility is located approximately four miles east of Coyote, Santa Clara County, as shown on Attachment "A" to this Order.

3. On July 16, 1964 the Board adopted Resolution No. 572 containing requirements concerning the discharger's disposal of wastes at public disposal grounds.

4. On October 23, 1969, the Board adopted Order No. 69-55 prescribing waste discharge requirements for this facility.

5. On July 25, 1972, the Board adopted Order No. 72-42 prescribing waste discharge requirements for a newly constructed evaporation pond on the discharger's facility.

6. The discharger developes and manufactures solid rocket fuels and polymers at this facility. Wastes generated in this process and disposed of on-site include:

Waste 001

Consists of sanitary sewage from approximately 740 people generating an average of 26,000 gallons per day. The waste is treated in a package secondary treatment plant and the effluent is sprayed on hillsides within the facility. Run-off from the spray disposal area is collected in an evaporation pond. The treatment, spray disposal and pond system is designed to handle 40,000 gallons per day without discharge to surface waters. Sludge is discharged to and contained in a pond next to the treatment plant.

Waste 002

Consists of approximately 1900 gallons per day of sanitary sewage treated and disposed of by four septic tank leachfield systems located at remote rest stations. In addition sewage is discharged to three holding tanks, T_1, T_2, and T_3 for subsequent disposal.

Waste 003

Consists of polymer production waste discharged to a 172,000 gallon storage and evaporation pond with a synthetic liner. The daily waste generated during production periods (five months each year) consists of approximately 2000 gallons of water containing 6900 mg/l sodium chloride, 10,200 mg/l acrylic acid, 300 mg/l acrylonitrile, polyermer, and trace amounts of an emulsifier and antioxidant. Wastes are periodically removed from this pond for disposal at an off-site regulated Class I site. The pond that this waste is discharged to has an underdrain system to detect potential ground water contamination in case of a leak and provide a system for collection of contaminated ground water.

Waste 004

Consists of wastewater contaminated with approximately 30 gallons per month of a chlorinated solvent disposed of into a concrete evaporation pond with no discharge to state waters.

Waste 005

Consists of approximately 400 gallons per day of metal treatment wastes containing 100 mg/l chromium, 71 mg/l chloride and having a pH of 10.8. The waste is stored in a 100,000 gallon concrete pond and is removed to an off-site Class 1 disposal site.

Waste 006

Consists of approximately 2500 gallons per day of zeolite filter backwash water from the water treatment plant. The waste is discharged to an evaporation pond with no discharge to State waters.

Waste 007

Consists of approximately 50 gallons per month of jet engine test stand cooling waters containing waste products from the combustion of jet and rocket fuels. The wastewater is discharged to a concrete evaporation pond with no discharge to state waters.

Waste 008

Consists of approximately 900 gallons per month of washwater containing propellant residue and is discharged to a settling sump and then to a concrete evaporation pond with no discharge to state waters.

Waste 009

Consists of approximately 50 gallons per day of wash water from the oxidizer and manufacturing processes which is discharged to concrete evaporation ponds with no discharge to state waters.

Waste 010

Consists of liquid fuels, polymers, and contaminated fire sprinkler water which may be accidently spilled. Emergency concrete spill ponds exist in areas where these materials are manufactured, stored, and tested. Wastes discharged to these ponds is either pumped out and disposed of offsite or is allowed to evaporate. Explosive residues are disposed of on-site.

Waste 011

Consists of wastewaters from cooling towers and other sources such as building floor drains, boiler blowdown, electric heaters, hot water generators, drinking fountains, and rain runoff. These wastewaters, total about 3500 gallons per day, are generated at various buildings throughout the facility, are not toxic or hazardous wastes, are discharged to the ground at the point of generation, and do not threaten the quality of surface or ground waters. Chemicals used to prevent equipment fouling are non-toxic and biodegradable.

Waste 012

Consists of approximately 3000 pounds per month of solid wastes (oxidizer salts and solid propellant waste) from the manufacturing process disposed of by incineration on the discharger's property.

Waste 013

Consists of sanitary sewage to be discharged to a septic tank and aeration pond treatment system during emergencies. The treatment system is designed to treat approximately 6300 gallons per day. Effluent from the aeration pond is disposed of by spray irrigation. Runoff from the irrigated area is collected in a percolation-evaporation pond with no overflow or discharge to surface waters.

Waste 014

Consists of laboratory sink and floor drain wastewaters discharged to a holding tank for subsequent disposal at other on-site facilities or off-site.

7. Waste products produced in the discharger's facility and disposed of off-site include:

a. Polymer production waste
b. Solvents
c. Paint wastes
d. Oil wastes
e. Metal treatment wastes
f. Resins
g. Oxidizer salts
h. Inert "Propellant" wastes
i. Combustion products
j. Sewage

Temporary on-site storage of these wastes is either at the disposal sites listed in Finding no. 6 above or in drums in areas where an accidental spill would be contained without discharge to state waters.

8. The Board, in April 1975, adopted a Water Quality Control Plan for the San Francisco Bay Basin.

9. Beneficial uses of ground waters under and downstream of the discharger's property include:

a. Domestic supply
b. Agricultural supply
c. Industrial supply

10. Beneficial uses of Shingle and Las Animas Creeks which are tributary to Anderson Reservoir, and Anderson Reservoir, located approximately one half mile downstream of the discharger's property, include:

a. Municipal supply
b. Ground water recharge
c. Recreation
d. Fish habitat
e. Wildlife habitat

11. This project involves the continued operation of an existing facility and is therefore exempt from the California Environmental Quality Act pursuant to Section 15101, Title 14, California Administrative Code.

12. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

13. The Board, in a public meeting, heard and considered all comments pertaining to the discharges.

IT IS HEREBY ORDERED that Chemical Systems Division of United Technologies and any other person who owns or operates this site shall comply with the following:

A. Discharge Specifications

1. The on-site discharge of wastes shall be confined to the following designated disposal areas, as shown on Attachment 'B' to this Order.

Waste	Designated Disposal Area
001	Pond P-1 and spray area SA-1
002	Leachfields LF-1, LF-2, LF-3, LF-4 and Tanks T-1, T-2, T-3
003	Pond P-4
004	Pond SA-3
005	Pond P-3
006	Pond P-2
007	Ponds CP-3, CP-4
008	Pond CP-1
009	Pond SA-3
010	Ponds CP-2, CP-3, CP-5, SW-1
012	Area SW-1
013	Spray area SA-4
014	Tank T-4

2. All ponds with a tributary runoff area (ponds P-1 and the pond in spray area SA-4) used for the disposal of wastes shall maintain a minimum freeboard of two feet at all times.

3. Surface runoff from spray areas SA-1 and SA-4 shall be collected in evaporation ponds.

4. Waste disposal ponds protected from runoff from surrounding areas shall maintain a minimum freeboard of one foot at all times. This includes ponds P-2, SA-3, P-3, P-4, and CP-1 through CP-5.

5. Wastes discharged to leachfields shall be confined below the ground surface.

6. All wastes discharged to disposal areas listed in specification A.1. above shall be contained within their designated disposal area unless removed to an off-site disposal site permitted by a Regional Water Quality Control Board.

7. Any sites used for the storage or disposal of wastes or toxic materials shall be protected from inundation and washout from storms or flood having a predicted return frequency of once every one hundred years. This includes ponds P-1 through P-4, CP-1 through CP-5, SA-1 through SA-4, and all areas where toxic wastes are stored.

8. Any area used for the storage of waste or toxic materials shall be maintained in such a way to prevent spilled material from entering waters or drainage ways.

9. The discharge of waste shall not cause the following conditions to exist in waters of the state at any place:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Alteration of turbidity or apparent color beyond present natural background levels;

   c. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

   d. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

B. Discharge Prohibitions

1. Any discharge of wastes, with the exception of waste 011, to surface waters or drainage ways is prohibited.

2. Any discharge of wastes other than wastes 001, 002, 006, 011 and 013 to land is prohibited.

3. The on-site discharge of wastes other than those listed in Specification A.1 above is prohibited.

4. Discharge of wastes listed in Specification A.1 above at an on-site disposal site other than that listed in Specification A.1 above is prohibited unless specifically approved by the Board's Executive Officer.

5. Off-site disposal of wastes shall be at a recycling facility or at a disposal site approved for the type of waste being disposed and having waste discharge requirements issued by a regional board.

6. The discharge of untreated or partially treated wastes 001, 002, or 013 to spray areas or unlined ponds is prohibited.

7. Dry weather discharge of waste 001 to spray area SA-1 shall not exceed 40,000 gallons per day.

C. Provisions

1. The discharger shall comply with the attached "Standard Provisions and Reporting Requirements" dated April 1977 except for items A.5, A.9, A.10, A.12, A.16 and B.2.

2. Waste Discharge Requirements Order Nos. 69-55 and 72-42 and Resolution No. 572 are hereby rescinded.

3. The discharger shall immediately comply with all portions of this Order.

4. The discharger shall file with this Board a report of any material change or proposed change in the character, location or quantity of wastes discharged on-site at least 120 days before such a change is made. Any change may require revision of this Order by the Board.

5. The discharger shall maintain a copy of the Order at the site so as to be available at all times to site operating personnel.

6. This Board considers the property owner to have a continuing responsibility for correcting any problems which may arise in the future as a result of this waste discharge or water applied to this property during subsequent use of the land for other purposes.

7. The discharger shall file with the Board technical reports on self-monitoring work performed according to the detailed specifications contained in any Monitoring and Reporting Program which may be directed by the Executive Officer.

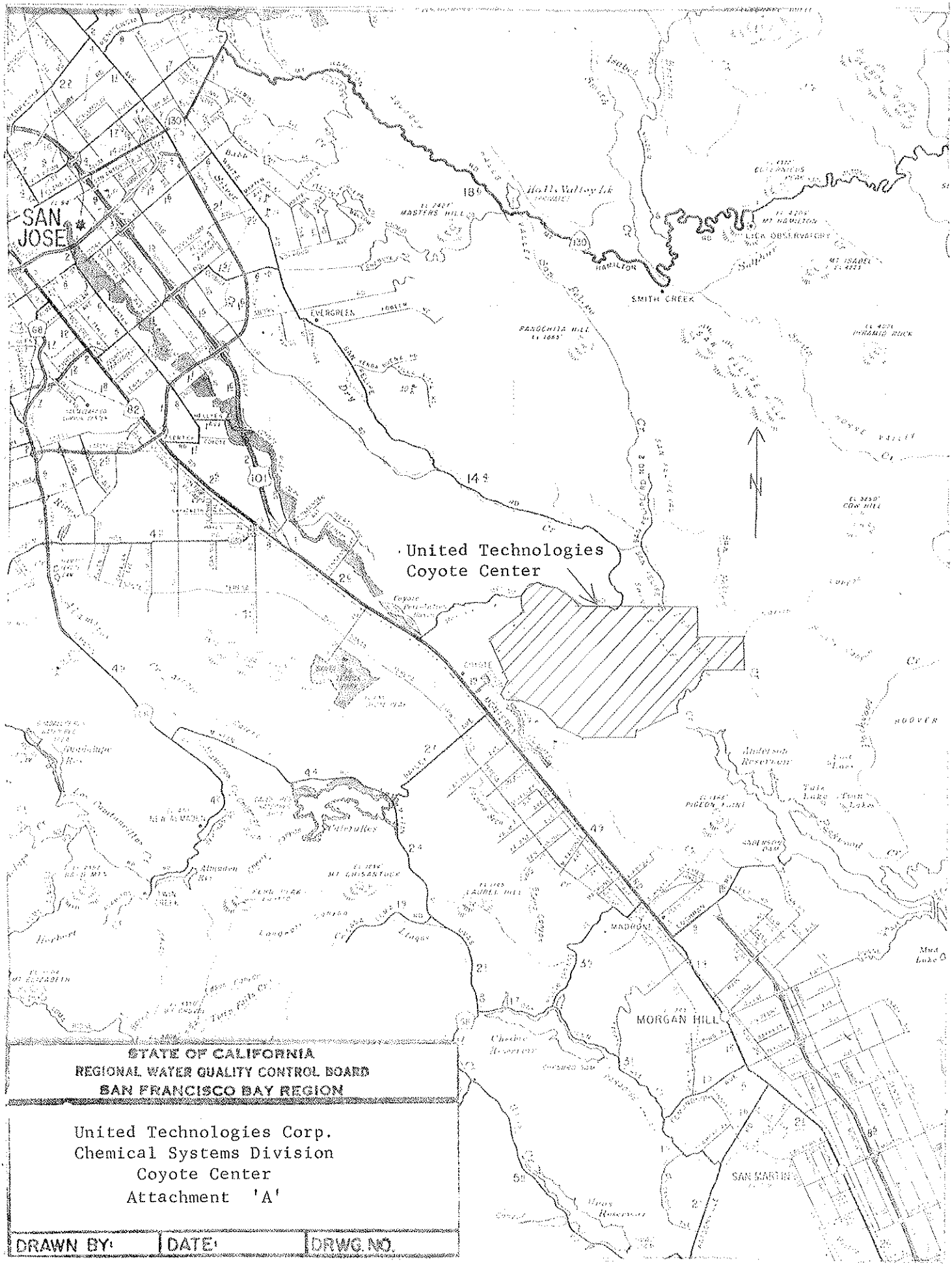
8. By July 1, 1981, the discharger shall submit a contingency plan which complies with Board Resolution No. 74-10.

9. By October 1 of each year the discharger shall submit a report to the Board containing the depth of freeboard in each waste disposal pond, an assessment of the ability to maintain the minimum freeboard with anticipated rains and waste inflow, and an operational plan in case the minimum freeboard is exceeded.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on December 2, 1980.

Attachments:
Standard Provisions & Reporting
Requirements - April 1977
Self-Monitoring Program

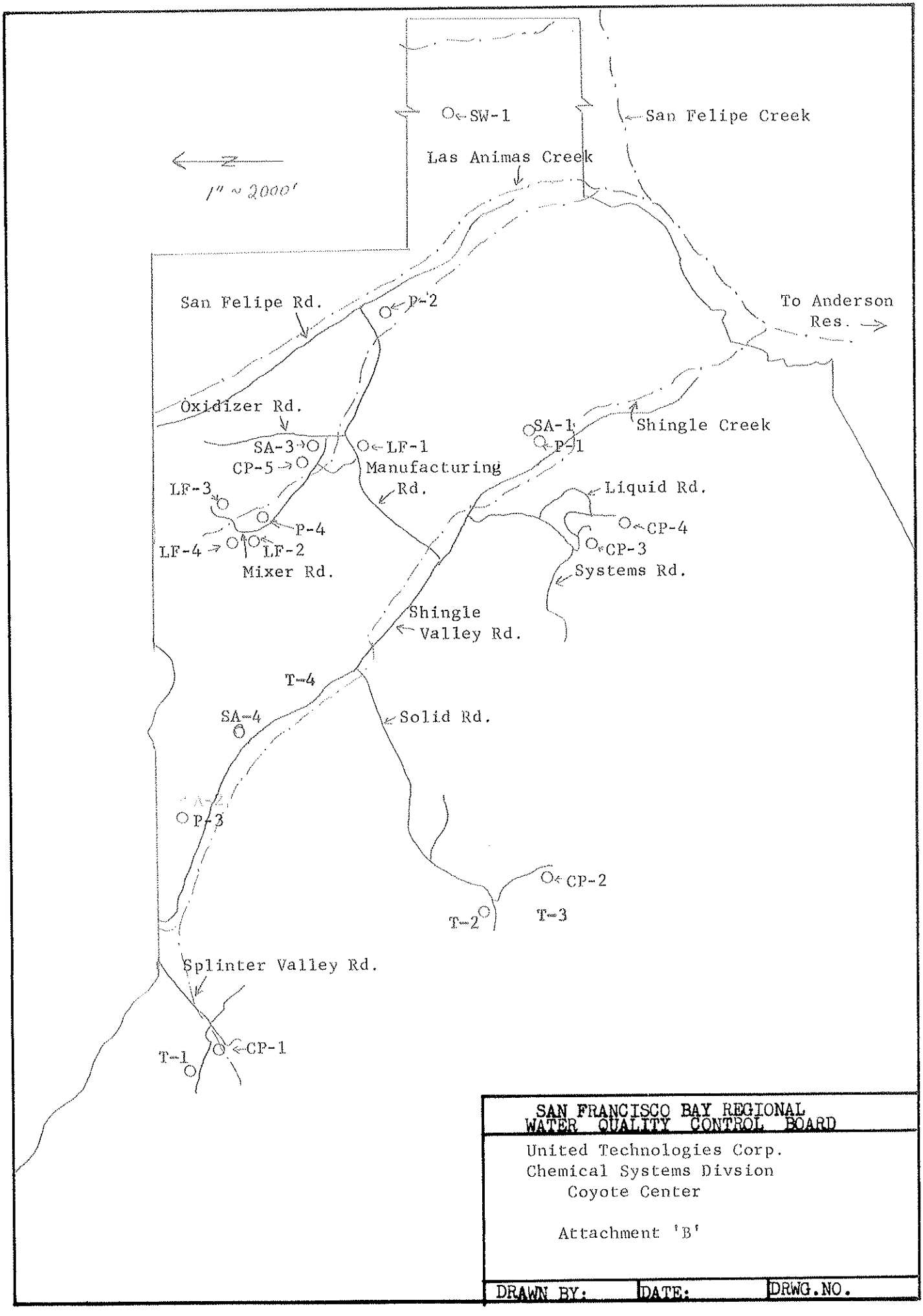
FRED H. DIERKER
Executive Officer



STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

United Technologies Corp.
Chemical Systems Division
Coyote Center
Attachment 'A'

DRAWN BY:	DATE:	DRWG. NO.


SW-1
San Felipe Creek
Las Animas Creek
1" ≈ 2000'
San Felipe Rd.
P-2
To Anderson Res.
Oxidizer Rd.
SA-3
LF-1
CP-5
Manufacturing Rd.
SA-1
P-1
Shingle Creek
LF-3
Liquid Rd.
P-4
CP-4
LF-4
LF-2
CP-3
Mixer Rd.
Systems Rd.
Shingle Valley Rd.
T-4
SA-4
Solid Rd.
P-3
CP-2
T-2
T-3
Splinter Valley Rd.
T-1
CP-1
SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD
United Technologies Corp.
Chemical Systems Divsion
Coyote Center
Attachment 'B'
DRAWN BY:
DATE:
DRWG.NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

United Technologies Corporation, Chemicals

Systems Division, Coyote Center

Santa Clara County

ORDER NO. 80-61

CONSISTS OF

PART A

AND

PART B

Part B

DESCRIPTIONS OF SAMPLING STATIONS AND SCHEDULE OF SAMPLING ANALYSIS, AND OBSERVATIONS

A. Land Observation and Sampling Stations

Station	Description
LF-1	Rest station leachfield near building 0705
LF-2	Rest station leachfield near building 0560
LF-3	Rest station leachfield near building 0571
LF-4	Rest station leachfield near building 0535
SA-1	Boundary of the sewage treatment plant effluent spray area
SA-3	Boundary of the solvent waste and wash water disposal area
P-1	Sewage treatment effluent storage pond
P-2	Water treatment plant back wash disposal pond
P-3	Chemical milling operation wastewater storage pond
P-4	Polymer waste storage pond
CP-1	Propellant residue pond near building 1705
CP-2	Emergency spill pond near building 1319
CP-3	Emergency spill pond near building 1810
CP-4	Combustion products pond near building 1811
CP-5	Emergency spill pond near building 0630
SW-1	Oxidizer salt and solid propellant waste disposal area near building 0891

B. Receiving Water Stations

Station	Description
C-1	Shingle Creek at Metcalf Road.
C-2	Shingle Creek below building 0470 and above San Felipe Creek.
C-3	Las Animas Creek near building 0150.

C-4	Las Animas Creek below confluence of drainage way which runs along Manufacturing and Mixer Roads and above San Felipe Creek.

C. Monitoring Wells

Station	Description
G-1	Well near pond P-4 connected to underdrain system.
G-2	Well approximately 100 feet down gradient of pond P-3.
G-3	Well approximately 100 feet down gradient of pond SA-3.

Wells G-2 and G-3 to be installed by December 1, 1980. Wells G-2 and G-3 are to be installed to at least 10 feet below the water table or until bedrock is reached.

D. Observations

Station	Frequency	Observation
LF-1 thru LF-4	Monthly	Note surfacing of wastes.
P-1, P-2	Weekly, October 1 to May 1, every other week, May 1 to October 1	Standard observations d(1) and d(2).
P-3 thru P-'n' and CP-1 thru CP-5, SA-1 thru SA-3	Weekly, October 1 to May 1, every other week, May 1 to October 1	Standard observations d(1) and d(2) and report when waste material is removed and where it is deposited.
SW-1	Every other week	Note any waste material leaving site.
C-1 thru C-4	Monthly, when flowing	All applicable standard observations.

If any pond is observed to have less than the minimum freeboard specified in these requirements the Board shall be immediately notified. Notification shall include a proposal for achieving the minimum freeboard. A written report shall be sent to the Board within 24 hours.

E. Sampling and Analysis

Station	Type of Sample and Frequency	Analyses
G-1	Quarterly grab sample	Electrical conductivity pH

G-2	Quarterly grab sample	Total chromium chlorides, pH
G-3	Quarterly grab sample	Nitrate, TOC, pH
	Semi-annual grab sample	Volatile organic materials*
C-1 thru C-4	Monthly grab sample when flowing	Electrical conductivity pH, Nitrate, TOC
C-2 and C-4	Twice yearly grab sample when flowing	Volatile organic material*

*Using purge and trap method with GC/MS (EPA Method 624).

F. Provisions

A report shall be filed with the Board prior to any change in the chemicals used in the cooling towers (waste Oil). The report shall include information on toxicity and biodegradability.

I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 80-61.

2. Does not include the following paragraphs of Part A: D.3, F.3.e.

3. The following sections of Part A shall be modified as follows:

   a. Paragraph F.3.b: Remove "The report format will be prepared using the example shown in Appendix A."

   b. Paragraph F.3.d: Remove "The report format will be prepared using the examples shown in Appendix B."

   c. Paragraph F.4: Remove the last sentence.

4. Is effective on the date shown below.

5. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer.

FRED H. DIERKER
Executive Officer

Effective Date _____